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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,896	12/20/2001	George Zarris	Q67643	2077

7590 03/16/2005  
SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER


HUGHES, DEANDRA M

ART UNIT PAPER NUMBER

3663

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

 <b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/022,896	ZARRIS ET AL.	
	Examiner	Art Unit	
	Deandra M Hughes	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 13 is/are allowed.  
 6) ☒ Claim(s) 1,2,4,5 and 7-12 is/are rejected.  
 7) ☒ Claim(s) 3, 6 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-2, 4-5, 7-8 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Onaka (US 6,510,000 filed Oct. 24, 2000).

With regard to claim 1, Onaka discloses a wideband Raman amplifier including:

- a laser pump source for producing wideband pump radiation signal *having a plurality of different wavelengths* (fig. 9);
- means for adjustable independent power control of (col. 15, lines 25-35: "control unit 2 controls the output power and wavelength of *each* excitation light source"; emphasis mine) each of a plurality of different radiation wavelengths ( $\lambda_1$  -  $\lambda_8$  are different wavelengths) of said wideband pump radiation signal *produced by said pump laser source*.

With regard to claim 5, Onaka discloses independent power control via variable optical attenuators (e.g. fig. 1, #71-#73).

With regard to claim 7, the pump is coupled to the signal to be amplified (#21)

With regard to claim 8, the control unit (fig. 1, #2) is the control means.

With regard to claims 2, 4 and 11, Onaka discloses an apparatus operating according to a method including the step of producing from a *single* pump laser source (the source is #601, which is a SINGLE source) a wideband pump radiation signal (fig. 9) by providing independently adjustable optical feedback (note the gratings 51-58 that

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produce the feedback) to the laser source at a plurality of different wavelengths (gratings shift wavelengths) of said wideband pump radiation signal.

With regard to claim 12, Onaka discloses a wideband Raman amplifier (fig. 1) *producing a wideband pump radiation signal having a plurality of different wavelength ( $\lambda_1$  -  $\lambda_8$  are different wavelengths) components from a single laser pump source (#601 is a SINGLE source), said amplifier* including means for independently adjusting the magnitudes of a plurality of different wavelengths (col. 15, lines 25-35) of a wideband pump radiation signal to alter the amplifier gain profile during (the control unit, 2, controls the pumps in response to measurements from the photodiodes in optical power unit #300; these measurements take place while the amplifier is operating) amplifier operation.

Since applicant has not acted as his own lexicographer and defined 'wideband pump' in the specification, the Examiner is applying the definition of 'wide bandwidth pump' as it is known in the art, i.e. any pump signal having a bandwidth greater than approximately 3nm (e.g. see Foursa: US 6,717,963, col. 3, lines 43-45).

3. Claims 1 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Evans (US 6,657,774 filed Aug. 18, 2000).

With regard to claim 1, Evans discloses a wideband Raman amplifier including:

- a laser pump source for producing wideband pump radiation signal *having a plurality of different radiation wavelengths* (22 and 22A; pump  $\lambda$  range is 1400nm to 1500nm; see claim 3 of Evans);

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- means for adjustable independent power control of (24) each of a plurality of different radiation wavelengths of said wideband pump radiation signal *produced by said laser pump source.*

With regard to claim 9, the independent power control is a switch (24).

With regard to claim 10, the control means (controller) selectively controls the switch.

#### ***Allowable Subject Matter***

4. Claim 13 is allowed.
5. Claims 3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter.

With regard to claims 3 and 13, the prior art does not teach or make obvious a *reflector for adjustable independent power control* in conjunction with the other features of the claim.

With regard to claim 6, the prior art does not teach or make obvious a separate variable attenuator for each reflector in conjunction with the other features of the claim.

#### ***Response to Arguments***

7. Applicant's arguments filed 3/2/05 have been fully considered but they are not persuasive. Applicant argues that in Onaka "each source (LDx) produces only a single

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wavelength" (pg. 5, lines 5-6). This argument is found not convincing because the source #601 produces a plurality of wavelengths ( $\lambda 1$  -  $\lambda 8$  are different wavelengths).

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175 until April 4, 2005. After April 4, 2005, the telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deandra M Hughes  
Examiner  
Art Unit 3663